

Penn's Manor, Bucks county: at 4 p. m. of the 19th, a very violent and destructive storm occurred in this vicinity. The storm came from the southwest, making its appearance suddenly, and was of about twenty minutes duration. Large numbers of dwellings and trees were blown down, and the railroads were blockaded with the fallen débris. The total loss caused by the storm is estimated at \$25,000.

Harrisburg: this city was visited by a very severe storm during the night of the 17th. Many buildings were unroofed and trees and telegraph poles prostrated.

Province of Ontario.—Chatham: during the afternoon of the 18th a severe wind and rain-storm passed over this section. An unfinished bridge across the Thames river was completely destroyed. Several trees were uprooted and other damage done.

Province of Quebec.—Saint Johns: a severe storm of rain and hail visited this section on the afternoon of the 6th. A number of houses were unroofed and a large amount of lumber was blown from the wharves into the river.

Tennessee.—Memphis: between midnight and 1 a. m. of the 23d a violent thunder-storm passed over this city; no serious damage was reported.

Texas.—Greenville, Hunt county: a severe storm occurred at this place on the night of the 2-3d, causing damage estimated at from \$50,000 to \$70,000. One person was killed and several injured.

McKinney, Collin county: a tornado occurred west of this place on the evening of the 9th, which caused much injury to crops. The path of the tornado was about one hundred and fifty yards wide. At this place a heavy hail storm occurred, the hail-stones being of unusual size.

West Virginia.—Martinsburg: a very severe and destructive storm passed over this locality at about 4 p. m. of the 9th. It continued for forty minutes, causing great damage in the immediate vicinity to fruit trees and other property. The estimated loss is about \$5,000.

Wisconsin.—Fond du Lac, Fond du Lac county: a severe wind and rain storm visited the southern part of this county at 6 a. m. of the 2d. In the immediate vicinity of this city very little damage was done, but at Oakfield, nine miles south, the storm was more destructive. About one hundred and fifty barns in this county were destroyed. The loss to property in this county, aside from the damage to crops, is estimated at \$50,000.

Brandon, Fond du Lac county: a severe storm passed over this village on the morning of the 2d. The most serious damage done was to the shade trees and orchards. Numerous buildings were unroofed and sheds and light outbuildings were blown down.

Port Washington, Ozaukee county: a severe storm passed over the northern part of this county between 6 and 7 a. m. of the 2d, causing a large amount of damage. Over two hundred buildings were destroyed in the towns of Belgium and Fredonia, at which places the storm raged with unusual violence.

Necedah, Juneau county: during a severe storm, on the morning of the 2d, a part of the bridge over the Wisconsin river, three miles east of this place, was carried away, entailing a loss of 4,000. Buildings and crops in Adams county were damaged to a considerable extent.

Elmo, Grant county: a violent storm occurred at this place on the afternoon of the 11th. A freight train on the Galena division of the Chicago and Northwestern railroad was lifted from the track. A large amount of damage was done in this vicinity.

Beloit, Rock county: a violent storm occurred at this place at about 6 p. m. of the 11th. A large number of houses were unroofed and great damage was done to the mills and factories along the water power. The water in the river rose very rapidly, flooding many cellars. The bridge of the Chicago and Northwestern railway was totally destroyed. Three persons were reported to have been killed. The damage caused by the storm is estimated at \$100,000.

LOW TIDES.

Indianola, Texas, 24th, 26th, 27th.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for June, 1883, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 85.10 per cent. The percentages for the four elements are: weather, 85.04; direction of the wind, 84.73; temperature, 85.27; barometer, 85.39 per cent. By geographical districts, they are: For New England, 85.24; middle Atlantic states, 86.62; south Atlantic states, 90.01; eastern Gulf, 85.08; western Gulf, 82.84; lower lakes, 81.46; upper lakes, 85.55; Ohio valley and Tennessee, 85.99; upper Mississippi valley, 85.70; Missouri valley, 82.39.

There were sixty-two omissions to predict out of 3,600, or 1.72 percent. Of the 3,538 predictions that have been made, one hundred and sixty-nine or 4.78 per cent., are considered to have entirely failed; eighty-seven or 2.46 per cent were one-fourth verified; four hundred and eighty-one or 13.59 per cent., were one-half verified; two hundred and nine or 5.91 per cent., were three-fourths verified; 2,592 or 73.26 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

The following percentages of verifications are for the month of August, 1882, which were not published in the REVIEW for that month:

The detailed comparison of the tri-daily indications for August, 1882, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentages of verifications to be 84.6 per cent. The percentages for the four elements are: weather, 91.0; direction of the wind, 84.4; temperature, 80.8; barometer, 81.6 per cent. By geographical districts they are: for New England, 84.1; middle Atlantic states, 84.9; south Atlantic states, 87.1; eastern Gulf, 86.5; western Gulf, 86.7; lower lakes, 86.9; upper lakes, 82.5; Ohio valley and Tennessee, 84.9; upper Mississippi valley, 79.9; Missouri valley, 80.7; north Pacific, 88.9; middle Pacific, 98.2; south Pacific, 99.1. There were one hundred and twenty-three omissions to predict (nineteen being due to the absence of reports from the Pacific coast) out of 3,813, or 3.2 per cent. Of the 3,690 predictions that have been made, one hundred and fifty-four, or 4.2 per cent., are considered to have entirely failed; one hundred and nine, or 2.9 per cent., were one-fourth verified; four hundred and fifty-six, or 12.4 per cent., were one-half verified; four hundred and ten, or 11.1 per cent., were three-fourths verified; 2,561, or 69.4 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During June, 1883, fifty-one cautionary signals were displayed. Of these, forty-one, or 80.39 per cent., were justified by winds of twenty-five miles or more per hour at or within one hundred miles of the station. These do not include signals ordered at display stations, where the velocity of the wind is only estimated. No cautionary off-shore signals were ordered during the month. Three signals were ordered late.

One hundred and thirty-eight winds of twenty-five miles or more per hour were reported for which no signals were ordered; many of these were high local winds or strong sea breezes.

NAVIGATION.

STAGE OF WATER IN RIVERS.

In the lower Missouri river, and in the Mississippi in the vicinity of Saint Louis, the water rose above the danger-line during the latter part of the month. The Missouri, at Leavenworth, Kansas, reached its highest stage on the 26th, when it was five inches above the danger-line.

The Mississippi, at Saint Louis, Missouri, was above the danger-line from the 17th to the end of the month. The highest stage occurred on the 25th, on which date the water was

four feet and five inches above the danger-line. At the close of the month the river was still two feet and seven inches above the danger-line. At Keokuk, Iowa, and Cairo, Illinois, the river rose nearly to the danger-line, the highest stage occurring at Keokuk on the 21st, and at Cairo from the 24th to 27th.

The Ohio river remained low throughout the month.

The highest and lowest stages of water observed at the Signal-Service stations during the month of June, 1883, are shown in the following table:

Heights of rivers above low-water mark, June 1883.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.	
		Date.	Height.	Date.	Height.
<i>Red River:</i>	<i>Ft. In.</i>		<i>Ft. In.</i>		<i>Ft. In.</i>
Shreveport, La.	29 9	28	19 4	2	13 6
<i>Arkansas:</i>					
Little Rock, Ark.	30 0	14	20 6	30	5 10
Fort Smith, Ark.	30 0	11	15 9	28	1 3
<i>Missouri:</i>					
Yankton, Dakota	20 0	15, 16, 17	7 9	10, 11	6 0
Omaha, Nebr.	16 0	28	14 2	17	9 9
Leavenworth, Kans.	21 0	26	21 5	1, 2	14 6
<i>Mississippi:</i>					
Saint Paul, Minn.	14 6	8, 9, 10	8 6	30	5 7
La Crosse, Wis.	18 0	25	7 6	8	0 0
Dubuque, Iowa	21 10	29	10 6	11	9 3
Davenport, Iowa	15 0	5	8 6	9, 10, 11, 30	7 10
Keokuk, Iowa	14 6	21	14 0	30	10 0
Saint Louis, Mo.	30 0	25	34 10	6	22 8
Cairo, Ill.	40 0	24 to 27	39 3	7	31 6
Memphis, Tenn.	34 0	27 to 30	31 2	10	25 2
Vicksburg, Miss.	41 0	25	39 9	1	38 5
New Orleans, La.†	2 6	1	1 6	28	2 10
<i>Ohio:</i>					
Pittsburg, Pa.	20 0	14	5 2	11	0 1
Cincinnati, Ohio	50 0	4	30 7	30	15 5
Louisville, Ky.	24 0	4	11 5	30	8 6
<i>Cumberland:</i>					
Nashville, Tenn.	42 0	13	27 3	25	5 11
<i>Tennessee:</i>					
Chattanooga, Tenn.	33 0	15	6 11	5	3 3
<i>Monongahela:</i>					
Pittsburg, Pa.	29 0	14	5 2	11	0 1
<i>Savannah:</i>					
Augusta, Ga.	30 0	26	15 4	21	6 0
<i>Willamette:</i>					
Portland, Oreg.	14, 15	17 10	9	15 11	
<i>Sacramento:</i>					
Red Bluff, Cal.	1	2 8	27	1 0	
Sacramento, Cal.	1	20 0	30	10 0	
<i>Mobile:</i>					
Mobile, Ala.	9	17 9	29	16 0	
<i>Colorado:</i>					
Yuma, Arizona.	29, 30	23 11	1	22 2	

† Below high-water mark of 1874.

FLOODS.

During the latter part of the month very destructive floods occurred in the Missouri river, and in the Mississippi river between Saint Louis, Missouri, and Cairo, Illinois. Large areas of valuable agricultural land adjacent to these rivers were inundated, causing a large amount of damage, and in some localities loss of life. Damaging freshets have occurred in many of the states, but, with the exception of the floods in the Missouri and Mississippi rivers, they were of local character and were confined to the smaller rivers and streams. The following reports, concerning the floods of June, have been collected from the various states:

Arkansas.—Lead Hill: the heavy rains of the 9th, caused the north fork of the White river to overflow its banks. Much fencing was washed away, and crops were badly damaged.

Helena, 22d: the river at this place continues to rise. Near Friar's point, Mississippi, the water has broken through an old crevasse, which will probably result in inundating a large territory contiguous to that place. On the Arkansas shore the water is spreading uninterruptedly, and will cover a large area.

Colorado.—Denver, 22d: the high temperatures of the past two days rapidly melted the snow in the mountains, causing the tributaries to the south Platte river to rise very fast. Two bridges across the Cache Lapoudre river, in the vicinity of Fort Collins, were carried away. On this date, it was reported that the Grand and Blue rivers, on the western side of the conti-

mental divide, were higher than ever before known, and that nearly all bridges in Summit and Garfield counties were washed away. Mining operations in these sections were seriously interrupted on account of the flooded condition of the country.

Fort Collins, Larimer county: owing to the heavy rain of the 16th, the banks of the canal broke at a point about fifteen miles north of Windsor, Routt county. The water from the canal flooded what is known as Black Hollow, drowning a large number of sheep.

Illinois.—Bloomington, McLean county: a very heavy rain occurred on the 16-17th, throughout central Illinois. A serious washout occurred on the Chicago & Alton railroad, causing delay of trains.

Carrollton, Greene county, 18th: reports from Bluffdale state that the Illinois river has reached the highest point ever known. The damage caused by the floods, in the vicinity of Bluffdale, is estimated at \$50,000.

Lebanon, Saint Clair county, 22d: the recent heavy rains have swollen all streams in this vicinity. Big Silver creek overflowed its banks, completely inundating the adjacent lowlands, which were under cultivation. A large acreage of wheat and corn—the former being ready for harvest—will prove a total loss.

Cairo: the lowlands in the immediate vicinity of Cairo, along the Mississippi river, were overflowed after the 20th. Fields of wheat, corn, and potatoes were destroyed.

White Hall, Greene county: a very heavy rain-storm occurred on the 16th. The Chicago, Burlington, and Quincy reservoir broke during the morning and washed away about 3,000 feet of railroad track. A number of bridges on the streams in this vicinity were washed away. All of the bottom lands along the Apple creek were submerged, the fences carried away, and crops destroyed.

Anna, Union county: on the 21st the river rose rapidly, flooding the adjacent farms and causing much damage to wheat and corn.

Havana, Mason county: a very heavy rain-storm occurred on the night of the 21-22d, which caused the Illinois and Spoon rivers to overflow the levees.

Chester, Randolph county: during the night of the 24th a break occurred in the Saint Mary's levee on the opposite side of the river in Missouri. In the Saint Mary's lowlands a large area of wheat land was flooded. From Chester to Grand Tower, southward on the Illinois side, a distance of twenty-five miles, with an average width of ten miles, the country was almost completely submerged, destroying the crops and entailing great loss.

East Saint Louis, Saint Clair county: on the morning of the 23d, the Madison dyke broke, flooding the bottom lands lying north of this place. Hundreds of families in this section were rendered homeless. On the afternoon of the 24th, the water which passed through the Madison dyke reached a point a short distance above Venice, making a large crevasse in the Chicago & Alton railroad embankment. About six hundred feet of the track was washed away. The tracks of the Indianapolis and Saint Louis, and the Wabash railroads were also washed away, cutting off all direct railroad communications with points north of this place. The break in the Chicago & Alton track flooded nearly all of the eastern part of Venice and forced many families to vacate their homes. On this date, it was estimated that about 15,000 acres of farm land north of East Saint Louis were under water and that the loss to crops would not be less than \$200,000.

Mitchell, Madison county: on the 25th, the country west of this place, for a distance of six and one-half miles, was covered with water, varying in depth from four to forty feet. Many houses were submerged and much stock drowned. On the 25th about 30,000 acres of land were overflowed. In east Saint Louis the situation had become more serious. The loss to the elevators and crops was estimated at \$1,000,000. The Saint Louis & Cairo belt-line sustained damages to the extent of

\$50,000, and a large ice-house was washed away, entailing a loss of \$40,000. The town of Cohkia, near Carondelet, was entirely submerged.

Kansas.—Leavenworth: the heavy rains of the 16th and 17th, caused numerous washouts and land slides on the railroads in this vicinity. A number of bridges in this and adjoining counties were washed away by the smaller streams. On the 19th, the railroad tracks were overflowed near Atchison and Wyandotte, Kansas. The river rose to the danger line at this place on the afternoon of the 25th, at which time all of the bottom lands in the vicinity were overflowed. The river fell below the danger line on the 28th.

Maryland.—Baltimore: the heavy rains of the 27th, caused damage to the wheat and hay crops in the surrounding country.

Michigan.—Kalamazoo, 30th: on this date the Kalamazoo river reached the highest point known for years.

Mississippi.—Vicksburg: the bridge over Dry Grove Bayou, on the Natchez & Jackson railroad, was washed away on the 15th, causing suspension of travel.

Missouri.—Saint Louis: the river at this place rose to the danger-line on the 17th; it continued to rise until the 26th, and afterwards fell steadily until the close of the month, at which time it was two feet above the danger point. On the 19th, a large part of the central levee was submerged. On the 20th the river steamers were compelled to deliver freight at points north of the bridge, on account of the high water. Traffic on the Wabash railroad was suspended on the 21st, and on the roads running west on the 22d. The river reached its highest stage on the 26th, at which time it was four feet and ten inches above the danger-line. The highest stages of water recorded since the establishment of the signal office in this city are as follows:

Year.	Month.	Date.	Height of river.	
			Feet.	Inches.
1872.....	June.....	12, 13, 14	23	0
1873.....	April.....	11	25	5
1874.....	April.....	24	18	11
1875.....	August.....	3	29	11
1876.....	May.....	10, 11	32	6
1877.....	June.....	14	26	7
1878.....	June.....	15	25	9
1879.....	July.....	3	21	2
1880.....	July.....	10, 11, 12	25	5
1881.....	May.....	5	33	8
1882.....	July.....	5	32	5
1883.....	June.....	25	34	10

Saint Joseph: the heavy rains of the 16th and 17th in this vicinity caused the suspension of travel on various railroads, and serious injury to the roadbeds. About forty bridges on the Saint Joseph & Western railroad were more or less damaged.

Booneville, Cooper county: the river, at this place, rose rapidly on the 17th and 18th, flooding the lowlands and a part of the Missouri Pacific railroad track.

Marysville, Nodaway county, 18th: the recent heavy rains have done great damage in this county. Nearly half of the bridges in the county have been swept away. A new iron bridge over the river at Barnard, and about one-half mile of the Wabash railroad track, were also washed away. On the 22d, the floods were rapidly subsiding.

Kansas City: Owing to the overflowed condition of the railroad tracks running north and east of this city, trains were unable to pass over these roads on the 17th. A large area near Harlem, Clay county, was inundated and the crops were entirely ruined. At Harlem the water broke through the embankments and flooded the town, compelling the inhabitants to abandon their homes. Freight cars were placed at points along the overflowed track of the Hannibal & Saint Joe railroad to prevent the tracks from being washed away.

Washington, Franklin county: on the 19th, Boeuff island, five miles above this place, was almost entirely inundated. Buse's island, two miles from this place was also inundated and the residents were compelled to move from their homes. In North Washington the stores and residences were reached by means of skiffs.

Morrison, Gasconade county: this place was almost entirely inundated on the 22d, and all farms in the lowlands were overflowed. The people were compelled to leave their homes.

Herman, Gasconade county: the river at this place rose to twenty-four feet above low-water mark, on the 20th, at which time it was higher than has been known since 1844. On this date the farmers on Loutre island opposite Hermann, moved their stock to the hills. Several families were compelled to leave their homes. The losses sustained by the farmers are estimated at from \$60,000 to \$75,000.

Albany, Gentry county: a very heavy rain occurred here on the morning of the 20th, causing much damage by washing out bridges and drowning stock. The losses sustained in this county are estimated at \$500,000.

Ashland, Boone county, 20th: the river broke over the levees at a point seven miles below this place, submerging the entire bottom lands for a distance of forty miles, and causing great damage to the growing crops.

Saint Charles, Saint Charles county: all of the bottom lands in this vicinity were under water on the 21st. The town of Brotherton was entirely swept away by the flood. The car shops were compelled to suspend work on this date, the water having reached the engine-room.

Portage des Sioux, Saint Charles county: the country adjacent to this place was completely submerged on the 26th. On the 25th, the river overflowed its banks at Willow Slough, two miles below Saint Charles, and inundated the farms in that locality.

Rocheport, Boone county: the bottom lands along the river in this vicinity were completely inundated on the 21st, causing great damage to wheat and corn. The lower part of the town was submerged, and the residents were compelled to move. Overton, on the opposite side of the river, was almost surrounded by water.

Jefferson Barracks, 22d: the high water has caused considerable damage at this place. The floors of the water-works' engine-rooms were covered to a depth of nearly six feet, and the water supply was cut off. Several houses were submerged and the people compelled to seek higher ground.

Waverly, Lafayette county, 22d: thousands of acres of corn and wheat in this locality were destroyed by the floods, and a large number of people have been forced to abandon their homes.

Jefferson City, 22d: the water in the Missouri river at this place reached the highest point known since the memorable flood of 1844. The damage in this city arose chiefly from the backwater from Wear's creek, which flows through the western part of the city. All of the gardens in the vicinity of the creek for a distance of about one mile were inundated, and in many of the houses the water rose to depths of several feet. Cedar City, a town of about three hundred inhabitants, situated nearly opposite this place, was partly submerged, and nearly all of the farms in the lowlands were under water.

Nebraska.—Lincoln, Lancaster county: the heavy rain-storm of the 16th was the severest experienced in eastern Nebraska for many years. About one hundred houses in the lowlands adjacent to this city were surrounded by water. Nearly all of the bridges in the county were swept away. More than one hundred houses in Tecumseh, Richardson county, were submerged. Many miles of railroad track were washed out and much stock drowned.

Omaha, 22d: the first trains from Pawnee county since the 17th arrived on this date, and report that a large section of country was flooded by the overflowing of the Little Nehama river. Sixteen persons were drowned in Pawnee county, and four others were drowned in other localities. Crops were damaged to some extent, and a large quantity of old corn was ruined. The injury to crops, buildings, household goods, live stock, and railroads in southeastern Nebraska is very great.

Table Rock, Pawnee county: the heavy rains of the 17th caused a general overflow of the creeks in this part of the state. The crops in the lowlands along the Nehama river were destroyed by the overflow.

Clear Creek, Saunders county: on the 18th, the Platte river reached the highest point that has been known at this place during the past sixteen years.

Tecumseh, Johnson county: a very heavy rain storm occurred on the night of the 22-23d, causing the streams in this vicinity to overflow. Bridges valued at 50,000 were washed away; large numbers of hogs and much cattle were drowned, and the crops in the lowlands were badly damaged. The total loss in Johnson county will exceed \$300,000.

New Hampshire.—Bristol, Grafton county: on the 20th and 21st the Pemigewasset river rose nine feet in twenty-four hours, and reached the highest point that has been known at this place for several years.

New Jersey.—Trenton, 29th: the Delaware river at this place reached a higher point on this date than has been known for years. Reports from points above this place state that the recent heavy rains have swollen the streams tributary to the Delaware to a greater extent than has been known during the last twenty years.

Ohio.—Xenia, Greene county: a very heavy rain fell at this place during the night of the 16-17th. The north branch of Shawnee creek overflowed its banks, submerging a number of houses in the vicinity of the creek and flooding many cellars in various parts of this city. Washouts occurred on almost all railroads running into Xenia.

Pennsylvania.—Scranton: the rainstorm on the night of the 18-19th caused considerable damage in this vicinity. A number of business houses sustained heavy losses from having their cellars flooded. Some damage was also done by lightning.

Wyoming.—Cheyenne: the heavy rains of the 16th flooded the business part of the city and caused much damage. All cellars and basements were wholly submerged, and in some parts of the city the streets were covered to depths of from one to three feet. The damage is estimated at \$50,000.

ATMOSPHERIC ELECTRICITY.

AURORAS.

On the night of the 30th, an auroral display was observed from New England to Dakota. This was the most extensively observed display of the month, but none of the stations at which it was observed report it as being brilliant. The following reports relate to this display:

Eastport, Maine, 30th.—Faint auroral light at 11 p. m.

Portland, Maine, 30th.—Aurora observed from 7.30 to 11.30 p. m., consisting of a segment of dark haze surmounted by an arch of greenish light, and rose colored streamers.

Mount Washington, New Hampshire, 30th.—An aurora was observed at this place from 9.30 p. m. of the 30th, until 1 a. m. of July 1st. The light extended to an altitude of about 15° and over about 40° of the horizon. Auroral beams and flashes were numerous and brilliant.

Point Judith, Rhode Island, 30th.—A faint aurora was observed at 10:25 p. m., which continued until after midnight.

Provincetown, Massachusetts, 30th.—A faint aurora was visible at this place from 8:45 to 11 p. m.; a few streamers rose to an altitude of 45°.

Oswego, New York, 30th.—An aurora was observed at 10 p. m., consisting of straw color light, which extended to an altitude of about 30°.

Mackinaw City, Michigan, 30th.—A poorly defined auroral light, of pale yellowish color, was observed at 10 p. m.

Duluth, Minnesota, 30th.—An auroral light was observed at 12:05 a. m. of July 1st. It consisted of a pale whitish color, and disappeared during the early morning.

Bismarek, Dakota, 30th.—An aurora was observed from 11 p. m. until midnight, the light extended to an altitude of 15°. This display was also reported by the following stations: Gardiner, Maine; Newport and Lunenburg, Vermont; Cambridge, Fall River, and Rowe, Massachusetts; Southington, Connecticut; Ithaca, and North Volney, New York; Canal Dover, Ohio; Northfield, Minnesota; Fort Madison, Iowa.

Auroral displays on other dates occurred as follows:

1st.—Gardiner and Eastport, Maine; Newport, Vermont; Cambridge, Massachusetts; Tobacco Garden, Dakota.

2d.—Eastport, Maine; Cambridge, Massachusetts; West Washington, District of Columbia; Freehold, New Jersey.

3d.—Burlington, Vermont.

4th.—Lansing, Michigan.

6th.—Fort Madison, Iowa.

7th.—Keokuk, Iowa; Lansing, Michigan.

8th.—Gardiner and Eastport, Maine.

11th.—Bordenton, New Jersey.

12th, 13th, and 14th.—Lansing, Michigan.

15th.—Bordenton, New Jersey; Wilkesbarre, Pennsylvania.

21st.—Clear Creek, Nebraska.

26th.—Fort Madison, Iowa.

27th.—Franklin and LaCrosse, Wisconsin; Moorhead, Minnesota; Clear Creek, Nebraska.

29th.—Dudley, Massachusetts.

THUNDER-STORMS.

Thunder-storms were reported in the various districts on the following dates:

New England.—4th to 8th, 10th to 13th, 17th to 21st, 28th, 29th, 30th.

Middle Atlantic states.—4th to 13th, 16th to 22d, 24th to 30th.

South Atlantic states.—1st, 3d to 26th, 28th, 29th, 30th.

Florida peninsula.—1st to 4th, 6th to 9th, 11th, 12th, 14th, 15th, 17th, 20th, 21st, 24th, 25th, 29th, 30th.

Eastern Gulf.—1st to 15th, 19th to 30th.

Western Gulf.—1st to 10th, 12th, 13th, 17th, 18th, 19th, 21st to 30th.

Tennessee.—2d to 13th, 16th, 18th, 19th, 21st to 26th, 28th, 29th, 30th.

Ohio valley.—2d to 10th, 12th, 13th, 16th to 21st, 23d to 29th.

Lower lakes.—2d to 7th, 9th to 12th, 16th to 19th, 24th, 25th, 26th, 29th, 30th.

Upper lakes.—1st, 2d, 3d, 5th, 6th, 9th to 12th, 16th to 19th, 21st, 23d, 24th, 25th, 27th, 29th.

Extreme northwest.—4th, 5th, 7th, 14th to 17th, 19th, 21st, 22d, 26th.

Upper Mississippi valley.—1st to 12th, 14th to 24th, 28th, 29th.

Missouri valley.—1st to 12th, 14th to 24th.

Northern slope.—1st to 4th, 7th, 9th, 10th, 13th to 23d, 25th, 29th.

Middle slope.—1st to 11th, 14th to 19th, 21st to 24th, 26th, 27th, 28th.

Southern slope.—1st to 4th, 6th to 13th, 16th, 17th, 26th, 27th, 28th.

Southern plateau.—3d, 11th, 20th, 21st, 23d, 25th, 28th, 29th, 30th.

Northern plateau.—10th.

Thunder-storms were also reported from the following states not included in the districts named above:

California.—Angel Island, 8th; Poway, 30th; Red Bluff, 13th, 16th, 17th, 18th.

Colorado.—Fort Garland, 3d, 27th, 28th.

Nevada.—Carson City, 14th; Pioche, 10th, 12th.

Texas.—Eagle Pass, 1st, 2d, 6th, 9th, 10th; Uvalde, 9th.

Utah.—Coalville, 1st, 2d, 3d, 27th, 28th; Nephi, 13th, 16th, 30th; Salt Lake City, 13th, 16th.

The following are some of the most important instances of damage by lightning that have occurred during June:

Hutchinson, Kansas, 6th.—The Hazard Powder Company's magazine, containing 1,300 pounds of powder, was struck by lightning at 3.30 a. m., of the 6th. The explosion which resulted broke nearly all the window-glass in the city and moved several buildings from their foundations.

Worcester, Massachusetts.—During a heavy thunder-storm of the 6th the tower of the Holy Cross College was struck by lightning and set on fire.

Ashland, Schuylkill county, Pennsylvania.—During a thunder-storm on the night of the 8th a large rock on Locust moun-